ANALYSIS OF COMPETITIVE SERVICE SUPPORT

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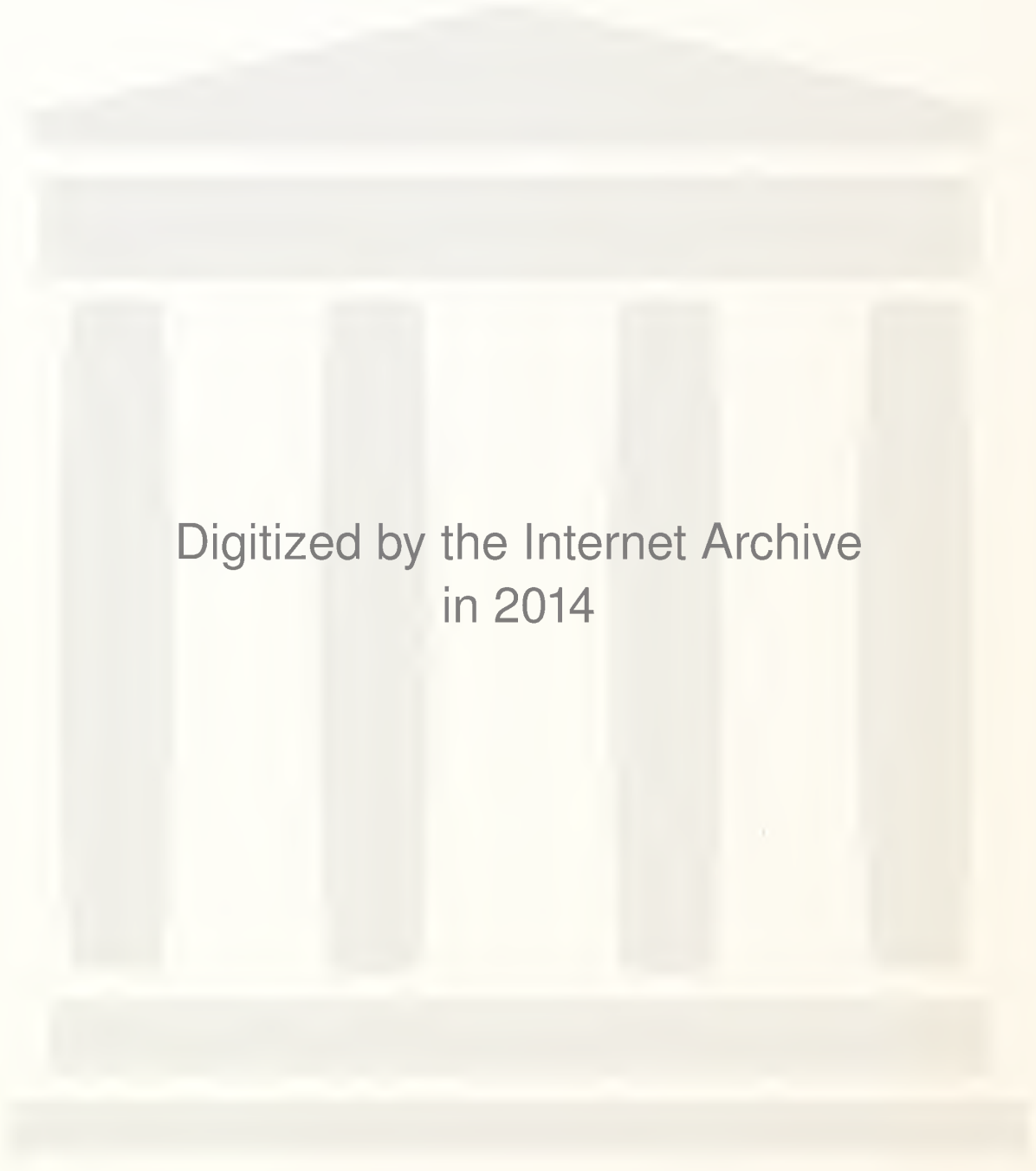
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1 INTRODUCTION

I INTRODUCTION

- The objective of this study is to provide competitive analysis of service for selected market segments and to make recommendations for AT&T's service strategy. Specifically, this includes the following:

  - Describe existing practices of vendors in the information industry for providing service support of their products.

  - Specifically analyze current status of:

    . Self-maintenance activities.

    . Bundled versus unbundled pricing of service.

  - Identify competitive positions.

  - Identify requirements for new service products.

  - Make recommendations for AT&T's service strategy.

- Chapter II contains the Executive Summary.

  - Conclusions are drawn on major issues supported by details from the entire study.

  - Recommendations are presented for AT&T's service strategy for both the short-term and mid-term timeframes.

- Chapter III explains the methodology used in conducting this study, including definitions used in this report.

- Chapter IV presents the general findings relative to systems service.

- Chapter V presents general findings relative to software service.

- Appendix A contains a copy of the questionnaire used for customer interviewing.

- Appendix B presents the major points from the service agreements of the eight vendors covered in this study.

II EXECUTIVE SUMMARY

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A. CONCLUSIONS

1. OVERALL COMPETITIVE SERVICE ENVIRONMENT

- System service is the vendor's responsibility regardless of who owns the asset.
- The concept of "maintenance" is a negative motivational factor to users.
  - Due to the historical evolution of the computer industry, users are disinclined to accept responsibility for maintenance.
  - "Maintenance" means that the system is down, and production is interrupted, which is a negative factor.
- Service products are sold at various levels in user organizations, as shown in Exhibit II-1.
- There is a progression of bundled and unbundled pricing for service products, as shown in Exhibit II-2.
  - Some service products, such as contract renewals, become "automatic" purchases.

EXHIBIT II-1

SELLING LEVELS FOR SERVICE SUPPORT PRODUCTS

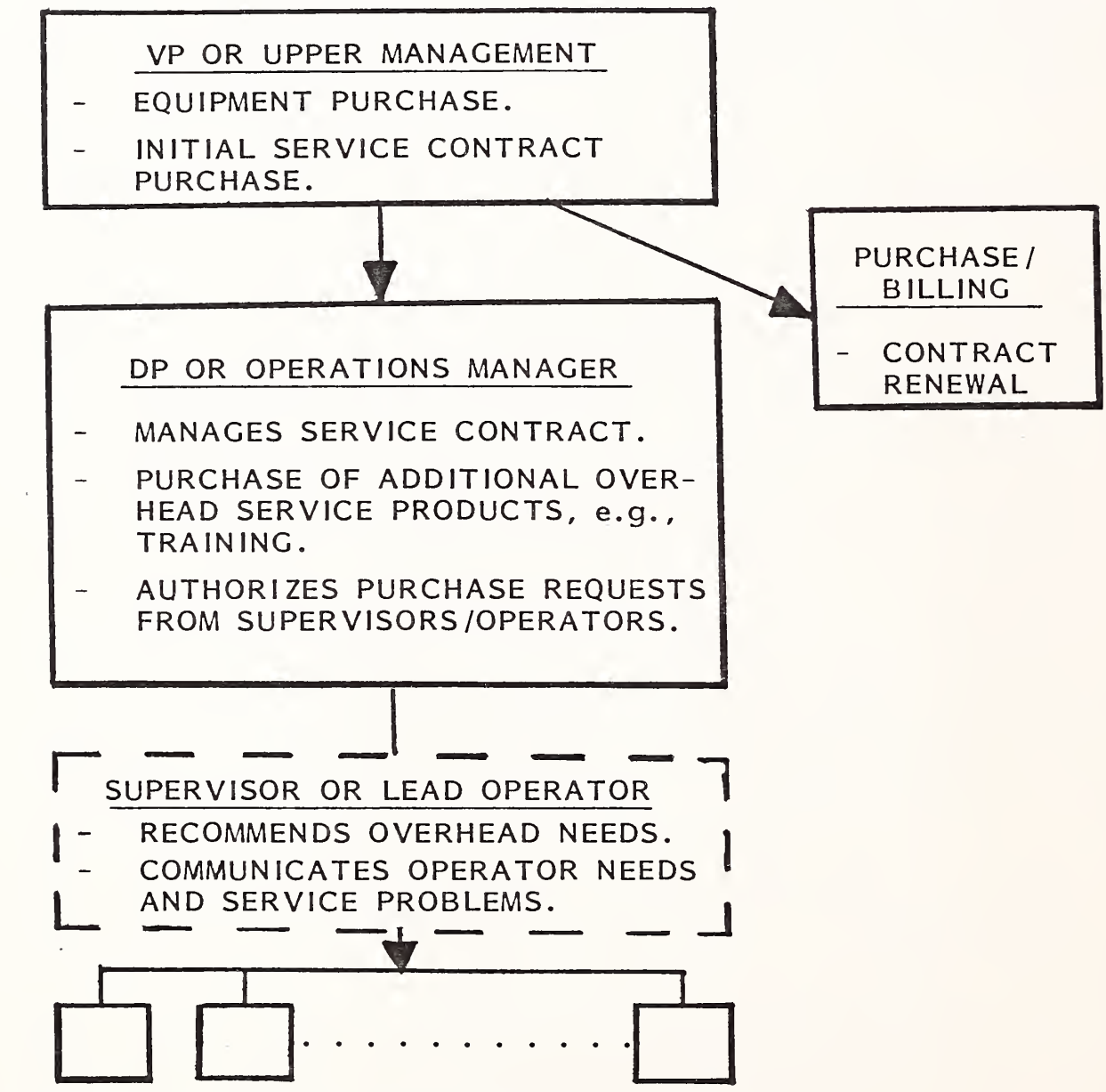
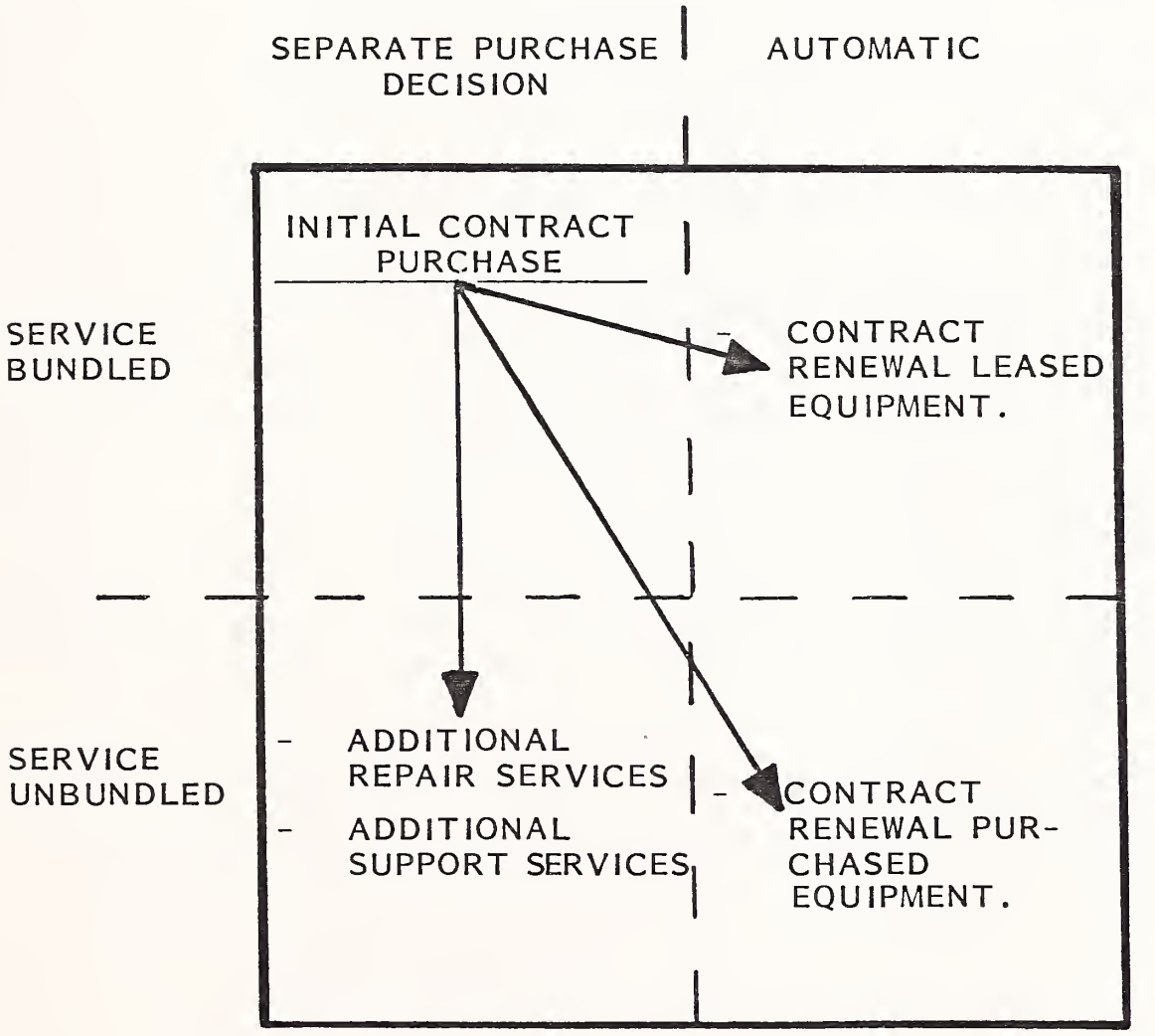


EXHIBIT II-2

PROGRESSION OF BUNDLED AND UNBUNDLED PRICING



- These do not require a separate purchase decision.

- If management gets reinvolved because of a problem, a purchase reevaluation may occur.

- After initial purchase, price and contract terms become unimportant.

- Contract terms do not define the product delivered.

- Service support is a personal services business.

  - The system vendor has the leadership position.

  - Perception of service is what is important.

- Third-party maintenance is not a major competitive force.

2. TRENDS

- There is a trend to unbundled pricing of support functions after initial installation.

- Another trend is to self-service in support functions for low-end computers and word processors, as shown in Exhibit II-3.

  . Price is not an incentive.

  . For some equipment, vendors require self-service.

  . Major incentives.

    1. Convenience.

    2. Faster uptime.

    3. User best knows his needs.

EXHIBIT II-3

INSTALLATIONS CURRENTLY DOING SELF-SERVICE SUPPORT

SUPPORT FUNCTION	OVERALL MARKET	LOW-END COMPUTERS	WORD PROCESSORS	PBX/CBX
Installation	22%	50%	25%	0
Building wiring	46%	30%	100%	11%
User training	36%	40%	38%	22%
Equipment moves	27%	60%	25%	0
System design/ consultation	63%	60%	75%	56%

3. COMPETITIVE SUBDIVISIONS

- The competitive environment varies depending on the background and orientation of the installation:
  - Low-end computer users often have a data processing orientation.
  - Word processor users often have an office automation orientation.
  - PBX/CBX users often have a communications orientation.
  - Independent software users often have a services orientation.
- Unique competitive aspects of the low-end computer market are as follows:
  - Multivendor maintenance occurs in 40% of the installations, which is significantly less often than in the PBX/CBX market.
  - Most occurrences of self-service are in support functions.
    - System design/consultation (60% of installations surveyed.)
    - Equipment moves (60% of the installations surveyed.)
    - Installation (50% of the installations surveyed.)
    - There is no choice of unbundled pricing for contracted service functions. In other words, the terms and price of the contract are not negotiated.

- Unique competitive aspects of the word processor market are as follows:

  - Multivendor maintenance occurs in 38% of the installations, which is significantly less often than in the PBX/CBX market.

  - Some support functions are commonly provided by self-service.

    . Building wiring (100% of the installations surveyed.)

    . System design/consultation (75% of the installations surveyed.)

  - There is no choice of unbundled pricing for contracted service functions. The terms and price of the contract are not negotiated.

- Unique competitive aspects of the PBX/CBX market are as follows:

  - Leasing is more common for PBX/CBX systems than for low-end computers and word processors.

  - Multivendor maintenance predominates, occurring in 89% of the installations surveyed.

  - Service contracts often have maintenance as separate line item, although the service product is not unbundled.

  - Choice of bundled or unbundled pricing for contracted service functions is more common, occurring in 33% of the installations surveyed. Thus contracts are more often negotiated.

  - Self-service in support activities is uncommon, except for participation in systems design.

- Unique competitive aspects of the software market are as follows:

  - Software maintenance is a different concept than hardware maintenance.

  - Software is often customized.

  - Software is more like a service than a product, which impacts the characteristics of software maintenance.

  - Users are more involved in software maintenance by definition.

4. SUMMARY OF COMPETITIVE STRATEGIC POSITIONS

- Service/maintenance is currently in a state of flux in many vendor organizations.

- Due to the lower price ranges, low-end computer and word processor vendors are promoting innovative service products.

- Vendors generally enjoy a high level of customer satisfaction with maintenance.

- A summary of competitive positions appears in Exhibit II-4.

B. RECOMMENDATIONS

- Base AT&T's service approach on the user decision process.

  - Senior sales personnel can be used for initial sale.

    . This level of sales person should have technical sales experience.

EXHIBIT II-4

SUMMARY OF COMPETITIVE POSITIONS

LOW-END COMPUTERS	
Hewlett-Packard	Innovative service products. Multiple standard contracts available.
IBM	Expect changes at low-end. Unbundling support functions. Customers have problem crossing DPD/GSD/OPD divisional lines. Impact of CSD, the new Customer Engineering Division. IBM often considered over-priced. Service reputation is excellent.
WORD PROCESSORS	
Wang	Revised service image about 6 months ago. Service is major selling tool. Service reputation enhanced.
Xerox	Major emphasis seems to be elsewhere currently. Self-service not promoted.
PBX/CBX	
GTE and ROLM	Communications orientation makes service more complex. Trend away from distributors providing service. Rolm is successfully stressing excellent service.

EXHIBIT II-4 (cont.)

SUMMARY OF COMPETITIVE POSITIONS

SOFTWARE

Radio Shack	Service contracts are a recent occurrence. Service contracts considered over-priced. No software maintenance from user perspective.
Tymshare	Assist user in customization/maintenance. Trend to unbundling after installation.

. Senior personnel should have experience in selling to upper management.

. These initial sales activities require a commitment to personnel at a higher salary level.

- Junior sales personnel can be used for continued sales.

. A junior level of sales activity can concentrate on support products, such as user training and installation improvement.

. This level requires general sales experience with lower level management and working level personnel.

. Personnel at a lower salary level can fill these positions.

- Administrative or clerical personnel can be used for follow-up activity.

. Develop a procedure for following up on contract renewal and billing.

. Develop procedures for communicating with lead operators/ supervisors regarding additional support products and general service activities that are available.

- Individuals involved in the service sales process should be trained to do the following:

- Understand the decision structure of each client.

- Identify "automatic" purchase decisions.

- Influence the working level for continued sales.

- . Interface with operators, programmers, and technicians.
- . Help identify needs.
- . Anticipate problems.

- The market for on-going sales of support products is vulnerable.
  - Design products to reflect the low price sensitivity of the market.
  - Properly handled, this can be a high-revenue market for AT&T.
- A recommended strategy for AT&T service products is shown in Exhibit II-5.
- Design service plans to break away from the concept of "maintenance."
  - Acceptance of "systems management" can be investigated.
  - Application of traditional marketing techniques to service can be tested. Some such techniques are:
    - . Direct mail.
    - . Newsletters.
    - . Telephone sales.
    - . Advertising.
- Develop detailed marketing plans that take advantage of the competitive differences in the following market areas:
  - Low-end computers (data processing orientation).
  - Word processors (office automation orientation).

EXHIBIT II-5

SERVICE PRODUCT STRATEGY

PRODUCT	PRICING
• Initial Sales/Automatic Renewal - Installation . Less Complex Equipment	Unbundle
. Complex Equipment	Bundle
- Software Support	Bundle
- Diagnosis	Bundle
- Testing	Bundle
- Spare Stocking And Replacement	Bundle
- Initial Training	Bundle
- System Design Recommendations	Bundle
- Building Wiring (Except PBX/CBX)	Unbundle Support Self-Service
• Ongoing Sales - Add-On Equipment Installation	Unbundle Support Self-Service
- Additional Training	Unbundle Support Self-Service
- Equipment Moves	Unbundle Support Self-Service
- System Design/ Consultation	Unbundle

- PBX/CBX (communications orientation).

- Software (service orientation).

III METHODOLOGY AND DEFINITIONS

III METHODOLOGY AND DEFINITIONS

A. SCOPE OF THE STUDY

- A total of 37 user interviews were conducted with individuals having management responsibility for service/maintenance of an information handling system.
  - Twenty (20) interviews were conducted on-site.
  - Seventeen (17) interviews were conducted by telephone.
- The questionnaire used for the interviews may be found in Appendix A of this report.

B. METHOD OF INTERVIEWING

- The following market segments were covered in the interviewing process:
  - Low-end computers.
  - Word processors.
  - PBX/CBX systems.
  - Software.

- Interviews covering low-end computers included ten users of Hewlett-Packard or IBM systems.

  . Six interviews were conducted on-site.

  . Four interviews were conducted by telephone.

- Interviews covering word processors included eight users of Wang or Xerox systems.

  - Seven interviews were conducted on-site.

  - One interview was conducted by telephone.

- Interviews covering PBX/CBX systems included nine users of Rolm or GTE equipment.

  - One interview was conducted on-site.

  - Eight interviews were conducted by telephone.

- Interviews covering software included ten users of Radio Shack or Tymshare software.

  - Six interviews were conducted on-site.

  - Four interviews were conducted by telephone.

C. COMPANIES INTERVIEWED

- Low-end computer system users that were interviewed included the following companies:
  - $85 million insurance company.
  - Small software/turnkey house.
  - $14 million stationery manufacturer.
  - Distribution center with 350 employees.
  - $1.5 billion metal products manufacturer.
  - $2.7 billion food processing firm.
  - Sales financing subsidiary of a large corporation.
  - Bank with 2,700 employees.
- Word processor users that were interviewed included the following companies:
  - $1.2 billion oil company.
  - $1.5 billion metal manufacturer.
  - Eighty (80) employee savings bank.
  - Forty-seven thousand (47,000) employee bank.
  - One hundred and thirty (130) employee nonprofit publisher.

- $2.4 billion financial institution.
- Purchasing department of Wall Street bank.
- Mutual savings bank with $7 billion assets.

- PBX/CBX users that were interviewed included the following companies:
  - National hotel chain.
  - Eighty thousand (80,000) employee aircraft manufacturer.
  - $5.6 billion insurance firm.
  - $500 million metal manufacturer.
  - Six thousand (6,000) employee gas utility.
  - National chemical company.
  - Fortune 500 chemical manufacturer.
  - Multibillion dollar insurance firm.
  - $1.5 billion metal manufacturer.

- Software users that were interviewed included the following companies.
  - $2.3 billion manufacturer.
  - Small consulting firm.
  - $82 million rubber products manufacturer.

- $1.5 billion metal manufacturer.
- Small AV repair company.
- Dentist office.
- Real estate investment headquarters.
- $8 billion electrical equipment manufacturer.
- $600 million industrial component manufacturer.

D. DEFINITIONS

- For the purposes of this report, service is defined to have two component parts.
  - Repair functions.
  - Support functions.
- Repair functions include the following activities:
  - Diagnosis.
  - Testing with a remote support facility.
  - Board replacement.
  - Stocking spare parts.
  - Taking the device to a maintenance depot.

- Support functions include the following activities:
  - Diagnosis.
  - Testing with a remote support facility.
  - Board replacement.
  - Stocking spare parts.
  - Taking the device to a maintenance depot.
- Pricing is defined as bundled if the product cannot be purchased separately, even though pricing may appear as a separate line item for billing purposes.
- Pricing is defined as unbundled if the product can be purchased separately.

IV GENERAL FINDINGS: SYSTEMS SERVICE

IV GENERAL FINDINGS: SYSTEMS SERVICE

A. SYSTEMS CHARACTERISTICS

- Findings relative to systems service cover low-end computers, word processors, and PBX/CBX systems.

- Summary characteristics of the systems installations surveyed are as follows:

  - Forty-four percent (44%) of the systems have the equipment in a single location.

  - The distribution of leased and purchased equipment is shown in Exhibit IV-1.

    . Overall, 52% of the installations have leased equipment and 68% of the installations have purchased equipment.

    . It should be noted that leasing is more common on PBX/CBX equipment than on low-end computers or word processors.

  - User preference for leasing versus purchasing is shown in Exhibit IV-1.

    . User perception of financial considerations are the key factor in this preference.

EXHIBIT IV-1

LEASED VERSUS PURCHASED EQUIPMENT

- Current status:

	LEASED	PURCHASED	LEASED AND PURCHASED
- Overall Market	33%	48%	19%
. Low-End Computers	20%	60%	20%
. Word Processors	37%	50%	13%
. . PBX/CBX	44%	33%	23%

- Preference:

- Leasing preferred	44%
- Purchasing preferred	26%
- No difference	7%
- Depends on cost	19%
- Depends on equipment type	4%

. There are frequently differences between the manager's preference and the official company policy.

. Leasing seems to be preferred by managers because it allows them to accommodate technological changes and improvements.

B. SYSTEMS SERVICE

1. SELLING SERVICE

- Service and support are critical to the initial equipment sale.

- The equipment salesman rather than a customer service representative most often sells the service contract.

- Service vendors sell at multiple levels in the user installation, depending on the product, as shown in Exhibit II-1.

  - At the initial sale, upper management evaluates service as part of the systems purchase.

  - After the initial sale, service sales are made at lower levels in the user installation.

    . The DP or operations manager manages the service agreement, purchases additional services, and authorizes contract renewals and other purchase requests.

    . Contract renewal may go to purchasing/billing, where it is renewed automatically.

    . A supervisor or lead operator is sometimes present to recommend overhead service needs and communicate service requirements from the working level.

. The operators, technicians, and programmers who are at the working level generate requests based on their service needs and problems.

2. GENERAL SERVICE ENVIRONMENT

- Organizations that are perceived as responsible for systems maintenance in user installations are shown in Exhibit IV-2.

  - The equipment manufacturer is perceived as responsible for maintenance in 93% of the systems installations surveyed.

  - Service from system suppliers or third parties is as follows:

    . Rare for low-end computers or word processors.

    . Occurs in 56% of PBX/CBX installations.

  - Occurrence of multiple maintenance organizations perceived as responsible in the user installation is as follows:

    . Thirty-eight percent (38%) to 40% of low-end computer and word processor installations.

    . Eighty-nine percent (89%) of PBX/CBX installations.

- The criteria used for selecting systems maintenance vendors is shown in Exhibit IV-3.

  - By far the most prevalent criteria is for maintenance to be provided by the equipment manufacturer or supplier.

  - The low priority given to price indicates the relative price insensitivity in the maintenance market.

EXHIBIT IV-2

USER PERCEPTION OF ORGANIZATION RESPONSIBLE FOR SYSTEM MAINTENANCE

ORGANIZATION RESPONSIBLE FOR MAINTENANCE	OVERALL MARKET	LOW-END COMPUTERS	WORD PROCESSORS	PBX/CBX
CPU or PBX manufacturer	93%	100%	100%	78%
System supplier if different from manufacturer	19%	-	-	56%
Third-party maintenance vendor	7%	10%*	12%*	-
Self	-	-	-	-
Other	7%	-	-	22%**

*Third party providing software maintenance.
**Phone companies in GTE installations.

EXHIBIT IV-3

SELECTION CRITERIA FOR SYSTEMS MAINTENANCE VENDORS

CRITERIA	IDENTIFIED AS MOST IMPORTANT IN VENDOR SELECTION
Vendor is the equipment manufacturer or supplier	70%
Vendor service reputation	12%
Geographic coverage	7%
Price	7%
Maintains other equipment in installation	4%

- Both hardware and software are provided by the maintenance vendor in over 90% of the installations.

- Ninety-three percent (93%) of the systems have prime shift maintenance (Monday-Friday, 8 hours).

- Seventy percent (70%) of systems come with verbal or written performance guarantees.

  - Response time is the most common guarantee.

  - About half of the guarantees are written and half are verbal.

  - Guarantee practices for some vendors appear to be as follows:

    . IBM: Verbal, if any.

    . Hewlett-Packard: Written response time.

    . GTE: Verbal is common.

    . Rolm: Written response time common.

    . Wang: Verbal, if any.

- Fifty-seven percent (57%) of equipment is covered by a standard, non-negotiated service contract.

- Extended coverage periods are the most common contract option.

3. PRICING

- Eighty percent (80%) of the installations consider current maintenance charges to be reasonable.

- Seventy-five percent (75%) of those that consider their maintenance charges to be too high have IBM equipment.

- The status of bundled versus unbundled maintenance pricing for leased equipment is as follows:

  - The price of maintenance is bundled in 87% of leased equipment installations.

  - Unbundling pricing for maintenance contracts is not found with low-end computers or word processors.

  - Unbundled pricing for maintenance contracts is found in 22% of PBX/CBX installations.

  - Customers are given a choice of bundled or unbundled pricing for services in the maintenance contract in 33% of PBX/CBX installations.

- There exists a progression of bundled and unbundled pricing as shown in Exhibit II-2.

  - Pricing of service is generally bundled into the initial sale and bundled for contract renewals on leased equipment.

  - Pricing is unbundled for additional repair and support services, and for contract renewals on purchased equipment.

  - As shown in Exhibit II-2, there are "automatic" service purchases and service purchases requiring a separate purchase decision.

. Contract renewals are "automatic" purchases.

. The initial contract and additional services require separate purchase decisions.

4. USER SELF-SERVICE ACTIVITIES

- Some user self-service occurs in most installations.

- Self-service is more common for support activities than for repair activities.

- The occurrence of self-service for the overall market and for the individual equipment categories is shown in Exhibit II-3.

  - The most common self-service support activities in the overall market are as follows:

    . System design/consultation (performed by 63% of the users surveyed).

    . Building wiring (performed by 46% of the users surveyed).

    . User training (performed by 36% of the users surveyed).

  - Self-service is particularly prevalent on low-end computers and word processors.

    . On low-end computers, self-service for equipment moves (60%) and system installation (50%) are noticeably more common.

      1. This reflects the design of the equipment, which allows the user to simply "plug it in."

. On word processors, self-service for building wiring (100%) is overwhelmingly prevalent.

1. The user often subcontracts building wiring to an electrician.

- Significantly less self-service support is performed on PBX/CBX equipment than on low-end computer and word processing equipment.

. Self-service installation and equipment moves are found for none of the systems surveyed.

. System design/consultation is the only self-service function that commonly occurs on PBX/CBX systems.

- Self-service repair is not particularly prevalent for the equipment surveyed.

- Diagnosis is the most common self-service repair activity.

- User attitudes towards self-service repair are shown in Exhibit IV-4.

. Users tend to lump all repair functions together rather than discriminating among them.

. Slightly more than half (56%) of the users surveyed have a negative reaction to performing any repair functions.

. Of the 29% with a positive reaction to self-service repair, 18% are currently performing some repair and an additional 11% would consider performing some.

EXHIBIT IV-4

USER ATTITUDES TOWARDS SELF-SERVICE REPAIR

• Positive reaction to performing all repair functions	29%
• Negative reaction to performing any repair function	56%
• Mixed reaction	15%

- Vendor support products for self-service include the following:
  - Documentation.
  - Training.
  - Back-up support.
- User attitudes towards vendor support of self-service are shown in Exhibit IV-5.
  - Users do not believe vendors provide sufficient support to permit self-service.
  - Vendor support is felt to be insufficient for even partial self-service, especially in repair functions.

5. OTHER VENDOR SUPPORT ACTIVITIES

- Formal trouble history analysis or vendor tracking is usually done by the maintenance vendors, not the users.
- Some system design/engineering consultation is provided by vendors in 86% of the installations.
  - Ninety-five percent (95%) of such consultation involves on-site assistance.
  - There is a high degree of user involvement in system design/-engineering.
- Service personnel with industry or application specialties are found for low-end computers and word processors.
  - These specialists are rarely accessed by users.

EXHIBIT IV-5

USER ATTITUDES TOWARDS VENDOR SUPPORT OF SELF-SERVICE

VENDOR SUPPORT FOR SELF-SERVICE	SUFFICIENT	INSUFFICIENT	UNDETERMINED
Documentation	26%	74%	-
Training	22%	74%	4%
Back-up Support	32%	68%	-

- Word processing is the most common application in which service personnel are found to specialize.

- Industry specialties include:

  . Education.

  . Banking.

  . Legal firms.

V GENERAL FINDINGS: SOFTWARE SERVICE

V GENERAL FINDINGS: SOFTWARE SERVICE

A. SOFTWARE USER CHARACTERISTICS

- Characteristics of the software installations surveyed are as follows:

  - Radio Shack.

    . The software is being used in a single location.

    . An individual user is more common than multiple users.

    . With Radio Shack it is the system that is purchased, not software.

    . The Radio Shack systems, including hardware and software, require little or no maintenance.

  - Tymshare.

    . The software is being used in multiple locations.

    . Software support is an issue for users of Tymshare software.

. Software support functions include the following:

1. Updating.

2. Diagnosis.

3. Debugging.

4. Parameter changes.

5. Customization.

B. SOFTWARE SERVICE

1. SERVICE FROM THE SOFTWARE VENDOR

- Sixty-six percent (66%) of Radio Shack's installations have Radio Shack involved in maintenance.

  - Since systems, not software, are purchased from Radio Shack, the maintenance provided is frequently on equipment, not software.

- Radio Shack maintenance contracts for their systems are a relatively recent occurrence and are considered overpriced.

- Organizations involved in Tymshare's maintenance are as follows:

  - Manufacturer in 100% of installations.

  - User in 75% of installations.

2. SOFTWARE SERVICE FROM NON-VENDOR ORGANIZATIONS

- Multiple software maintenance organizations are involved in 44% of the installations.

- The following maintenance functions are commonly performed by the user or a third party:

  - Installation.

  - User training.

  - System design/consultation.

- For customized software, the user assumes prime responsibility in 100% of the installations surveyed.

- The user organizations for software maintenance support have the following characteristics.

  - Centralized trouble reporting.

  - Vendor follow-up and trouble history analysis not formally performed.

  - Tymshare's maintenance costs are allocated to individual users within a customer installation.

3. OTHER VENDOR SUPPORT ACTIVITIES

- System design/consultation from the vendor occurs as follows:

  - Radio Shack does not provide it.

  - Tymshare charges separately for it.

- Documentation from the vendor is provided as follows:

  - Radio Shack's software technical manuals are not offered to users.

    1. Radio Shack computer centers have the software technical manuals.

    2. To diagnose or debug a software problem the user contacts the Radio Shack store, explains the problem, and the solution is worked out from the technical manual at the store.

  - Tymshare provides documentation at the time of initial installation, then charges for updates.

- Support personnel with industry/application specialties are not provided by the vendor.

APPENDIX A: USER INTERVIEW QUESTIONNAIRE

COMMUNICATIONS SERVICES SUPPORT QUESTIONNAIRE

INPUT is studying emerging trends in the various types of service support provided by vendors of information related equipment. We are particularly focussing on those types of equipment being offered to meet the needs of the so called "office of the future".

1. Do you now have responsibility for acquiring and/or supporting:

	YES	NO
Small Computer Systems	( )	( )
Voice Communications Equipment	( )	( )
Office Equipment	( )	( )

2. What specific equipment? Vendor?

3. How many units?

4. How many locations?

5. Leased or purchased?

6. Do you prefer leasing or purchasing equipment?

( ) Leasing
( ) Purchasing
( ) No difference

7. If leased, is it a:

( ) Financial lease
( ) Operating lease
( ) Term rental
( ) Tariff contract

8. What organizations provide the maintenance support of this equipment?

( ) CPU or PBX Manufacturer
( ) System supplier, if different from manufacturer
( ) Third party maintenance vendor
( ) Self
( ) Other

8. Is more than one maintenance organization involved?

( ) YES ( ) NO

9. If yes, how is the responsibility allocated among them?

10. For systems, are both hardware and software support provided by the maintenance vendor?

( ) YES ( ) NO

INPU

11. Is the maintenance cost a part of the lease or paid for separately?

12. Did you have a choice in this matter?

( ) YES ( ) NO

13. Which method would you prefer?

14. How do you pay for this maintenance? (If paid for separately.)

( ) Monthly Fee
( ) Charge Per Call
( ) Other

15. What is the length of your maintenance contract?

16. How much do you pay?

_____ Per month
_____ Per call
_____ Other

17. Do you consider the cost to be reasonable? Too high? Much too high?

18. What are the hours and days of coverage?

19. Does this coverage period meet your needs?

( ) YES ( ) NO

20. Does the coverage period vary by zone?

( ) YES ( ) NO

21. Can you obtain expanded coverage periods?

( ) YES ( ) NO

22. Do the hours of coverage vary by zone?

( ) YES ( ) NO

23. What performance guarantees are provided?

( ) MTTR
( ) Response time
( ) Other

24. How well are these provisions met?

25. Are other options available from your vendors or is the contract fairly standard?

( ) Options available

( ) Standard contract

26. How are you organized to control the maintenance support? Who in your organization assumes responsibility for installation maintenance?

- Is trouble reporting centralized or distributed to operators?
- Who performs vendor follow-up or restoral tracking?
- Who performs trouble history analysis?
- How is maintenance cost allocated to users?

28. Who sold you the service contract?

( ) Equipment salesman
( ) Customer service representative
( ) Other_____

29. Who was responsible for selecting the maintenance vendor?

30. What was the primary selection criteria? (In order of importance.)

____ Equipment supplier
____ Price
____ Reputation
____ Geographic coverage
____ Maintains other equipment on our premisis
____ Other _____

31. Did you consider other maintenance vendors?

( ) YES ( ) NO

32. Are there some improvements which could be made in your relationship to your maintenance vendors?

( ) YES ( ) NO

33. If yes, in what areas?

____ Price
____ Reliability
____ Interfaces
____ Scope of coverage
____ Hours of coverage
____ Geographic coverage
____ Other_____

34. Please describe.

35. Have you ever considered performing some of the maintenance functions in your own organization?

Why or why not?

Would you?
( ) YES ( ) NO

Which functions?

( ) Diagnosis
( ) Testing with a remote support facility
( ) Board replacement
( ) Stocking of spare parts
( ) Taking the device to a maintenance depot

36. Do your present lease contracts allow your participation?

37. Have any of your maintenance vendors offered you an incentive to perform more of your own maintenance functions?

38. Do your vendors provide you with enough documentation to perform some of your own maintenance?

39. Do your vendors provide you with enough training to perform some of your own maintenance?

40. Do your vendors provide you with enough back-up support to perform some of your own maintenance?

41. Which of your employees would you be willing to have participate in performing maintenance?

( ) Operators
( ) Technicians
( ) Supervisors
( ) Special staff

42. Who performs the following other support functions?

	CPU OR PBX MANU-FACTURER	SYSTEM SUPPLIER	THIRD PARTY MAINTENANCE VENDOR	SELF	OTHER
Installation	( )	( )	( )	( )	( )
Building Wiring	( )	( )	( )	( )	( )
User Training	( )	( )	( )	( )	( )
Equipment Moves	( )	( )	( )	( )	( )
System Design/ Consultation	( )	( )	( )	( )	( )

43. How satisfied are you with the performance of these other support functions?

	VERY SATISFIED	SATISFIED	VERY DISSATISFIED
Installation	( )	( )	( )
Building Wiring	( )	( )	( )
User Training	( )	( )	( )
Equipment Moves	( )	( )	( )
System Design/Consultation	( )	( )	( )

44. For those you perform, why?

	COST	RELI-ABILITY	OTHER
Installation	( )	( )	( )
Building Wiring	( )	( )	( )
User Training	( )	( )	( )
Equipment Moves	( )	( )	( )
System Design/ Consultation	( )	( )	( )

45. Would you consider doing these additional functions?

( ) YES ( ) NO

Which ones?

46. What is the average time it takes to have equipment installed after it is ordered?

Is an expedited installation service available?

( ) YES ( ) NO

How much does it cost?

47. With regards to systems design/engineering consultation, is it provided with your purchase or lease?

( ) YES ( ) NO

Or do you pay for it separately?

( ) YES ( ) NO

48. How do you receive systems design or engineering?

( ) Over the phone
( ) On premises

49. Do your support vendors make any of the following capabilities accessible to you?

	YES	NO
Remote diagnostics center	( )	( )
System design center	( )	( )
Spare parts depot	( )	( )
Customer training center	( )	( )
Trouble history analysis	( )	( )
Retail outlets	( )	( )

Other_____

50. For your systems, how is software maintenance provided after the initial installation?

51. Could this support be improved? How?

52. Who maintains any customized software you have?

53. Do any of your support vendors have support personnel specializing in your applications or in your industry?

( ) YES ( ) NO

What speciality/industry?

54. Do your support vendors provide a single point of contact for coordinating the support of your multiple locations?

55. Is this a useful capability for you?

56. Do you perceive significant variations in the level of service support from one location to another?

( ) YES ( ) NO

57. Do you perceive any pattern to this variation?

58. In your opinion, what are the best service support organizations that you have dealt with or heard of? Why?

59. What long-term trends do you see emerging in the area of service support?

60. In terms of your specific requirements what changes would you like to see in the service support manner in which vendors provide?

APPENDIX B: SUMMARIES OF VENDOR SERVICE AGREEMENTS

APPENDIX B: SUMMARIES OF VENDOR SERVICE AGREEMENTS

A. LOW-END COMPUTER VENDOR

1. HEWLETT-PACKARD

- Standard system maintenance agreement.
  - Service hours.
    - Normal is 8 a.m. to 9 p.m. Monday through Friday.
    - Extended is up to 24 hours, 7 days a week.
  - Response time.
    - Targets are as follows.
      1. Four hours in zones 1 and 3.
      2. Eight hours in zones 4 and 5.
      3. Twelve (12) hours in zone 6.

. Company is trying to provide 2-hour response in zones 1 and 3.

- Average monthly maintenance charges.

. Normal.

1. Eight hundred and seventy-three dollars ($873) for the HP 3241-A model 8.

2. One thousand dollars ($1,000) for a system with an HP 9835 and an HP 9815.

. Extended.

HOURS	FIVE DAYS	SIX DAYS	SEVEN DAYS
8:00 a.m. - 9:00 p.m.	MMC	+10%	+20%
8:00 a.m. - 12:00 a.m.	+10%	+20%	+30%
24 Hours	+20%	+30%	+40%

- Travel charges.

ZONE	MILES	COST
1, 2, 3	0 - 100	MMC
4, 5	101 - 200	+25%
6	201 - 300	+50%

- Training.

. Provided on a additional charge basis.

- Documentation.

  . Software Status Bulletin lists bugs and how to work around them. Sophisticated customers provided with source codes.

- Central support center activity.

  . Hotline inquiry number is provided.

- Special conditions.

  . HP 300 and HP 3000 must also be covered by HP software support service. Elements of system must have same coverage unless eligible for the On-Site Product Agreement.

- Basic system maintenance agreement.

  - Service hours.

    . Eight a.m. (8 a.m.) to 5 p.m. Monday through Friday.

  - Response time.

    . Based on zones.

  - Average monthly maintenance charges.

    . Approximately $692 for the HP 3241-A Model 8.

  - Hourly rates on time and materials.

ZONE	MILES	MMC	RESPONSE TIME
1, 2, 3	0 - 100	Basic	Next Day
4, 5	101 - 200	+25%	2 Days
6	201 - 300	+50%	3 Days

- Remarks.

  . Hewlett-Packard feels this contract saves customer 20-25% over the Standard System Maintenance Agreement.

- Field repair center maintenance agreement.

  - Service hours.

    . Eight a.m. (8 a.m.) to 5 p.m. Monday through Friday.

  - Repair time.

    . Target is for a 3-day in-house turnaround time.

  - Limitations.

    . Covers selected products only: terminals, printers, plotters, desk-top computers, and assorted peripherals.

  - Central support center activity.

    . Six offices in U.S. offer support back-up on a fixed monthly charge.

- Remarks.

  . Company reported one customer with five HP-300 mainframes, two HP-2100 minis, and 90 terminals saved approximately $16,000 a year with this contract over the Standard Systems Maintenance Agreement.

• Time and material.

- Service hours.

  . Eight a.m. (8 a.m.) to 5 p.m. Monday through Friday.

- Response time.

  . Three days.

- Hourly rates on time and materials.

  . Prime shift is $95.

  . Overtime is $122.

- Travel charges.

ZONE	MILES	CHARGE
1	0 - 25	$70
2	26 - 50	$135
3	51 - 100	$180
4	101 - 150	$300

- Remarks.

. This is strictly a per-call service. For some selected products, however, labor and parts are combined into a Standard Repair Charge (STREP). These products may be repaired either in the field or at a repair center.

- On-site product maintenance agreement.

  - Service hours.

  - Eight a.m. (8 a.m.) to 5 p.m. Monday through Friday.

  - Response time.

    . Depends on zone.

  - Limitations.

    . Covers Hewlett-Packard terminals, desktop computers, and peripherals.

  - Travel charges.

ZONE	MILES	CHARGE	RESPONSE
1, 2, 3	0 - 100	MMC	Next Day
4, 5	101 - 200	+25%	2 Days
6	201 - 300	+50%	3 Days

- Guaranteed uptime service agreement (GUS).

  - Service hours.

    . Twenty-four (24) hours, 7 days a week, including Hewlett-Packard holidays.

- Response time.

  . Four hours.

- Provides 99% uptime during any consecutive three month period.

- Downtime is measured from 30 minutes prior to Hewlett-Packard receipt of notification that system does not execute Certified Verification Procedure (CVP) until CVP has been successfully executed.

- Average monthly maintenance charges.

- Charges vary based on equipment.

- The Guaranteed Monthly Maintenance Charge (GMMC) is a fixed charge that includes travel, labor, and parts regardless of the type or number of service calls rendered.

- The GMMC ranges from $185 for the 7925M + 16G to $425 for the 3001 3A + 16G; all software must be covered by Hewlett-Packard Customer Support Service.

- Training.

  . Operators trained in use of CVP.

- Documentation.

  . Includes equipment manuals and CVP procedures.

- Customer engineering support.

  . Modifications deemed necessary are provided to the customer at no charge.

- Central support center activity.

- There is a special telephone number to contact both hardware and software service coordinator. Modem provided to customers in remote service areas.

- Escalation procedures.

- Customer Engineers (CE's) are assigned to an account by the local field service manager.

  . CE's can get back-up support from technical support engineers who will contact support engineers or design engineers at Hewlett-Packard computer systems manufacturing division.

- General remarks on vendor service.

  . Overall, users rate it as good.

- Users seem to believe CE's respond to customer needs, although standardization in the quality of service personnel training could be improved.

2. IBM

- Service hours.

  - Normal.

    . Any consecutive 8-hour period between 7 a.m. and 6 p.m., Monday through Friday.

  - Extended.

- . Up to 24 hours a day, 7 days a week.

- Response time.
  - Nothing guaranteed.
  - IBM negotiates possible time with customers and tries to have Field Engineer (FE) on site within 2 hours.
  - Some contracts state 4 hours.
- Average monthly maintenance charges.
  - Normal.
    - . Machine Group A-$731.
    - . S/34 - approximately $300 per system.
    - . Series One - approximately $250 per system.
    - . One user pays between $3,500-$4,000 for a 4341 with 140 CRTs and 20 CICS printers for a Monday through Saturday, 8-hour coverage service contract.
  - Extended.
    - . See Exhibit B-1 for charges by machine group, days covered, and consecutive hours.

EXHIBIT B-1

SUMMARY OF VENDOR SERVICE AGREEMENT HOURS AND PRICING - IBM

MACHINE GROUP	DAYS	CONSECUTIVE HOURS				
		9	12	16	20	24
A	Mon.-Fri.	10%	14%	18%	22%	26%
B	Mon.-Fri.	10%	16%	22%	28%	34%
C	Mon.-Fri.	10%	19%	28%	37%	46%
A	Sat.	4%	5%	7%	8%	9%
B	Sat.	5%	6%	8%	10%	11%
C	Sat.	10%	19%	28%	37%	46%
A	Sun.	5%	7%	9%	11%	12%
B	Sun.	6%	8%	10%	12%	14%
C	Sun.	9%	11%	14%	16%	18%

- Hourly rates on time and materials.
  - Prime: $91 for DPD/$84 for GSD.
  - Overtime: $105 for DPD/$97 for GSD.
- Travel charges.
  - Eighteen cents (18¢) for DPD and GSD.
- Training.
  - Not specified.
  - IBM does not want users performing maintenance functions.
- Documentation.
  - Basic information is provided on machine functions and on how to locate faults.
- Customer engineering support.
  - IBM installs engineering changes when deemed necessary.
  - Customer may limit amount upon written approval of IBM.
  - Software maintenance is on a monthly license fee basis.
- Central support center activity.
  - Supertechs available for backup support and diagnostics.

- On-line service available.

- Escalation procedures.

  - Informal; not stated in contract.

  - Local FE usually reports to branch support if problem unsolved after 2 hours.

  - Branch management decides if central support staff should be contacted for either hardware or software support.

- Special contracts available.

  - Monthly Use Plan available on some equipment, with Monthly Maintenance Charge (MMC) based on a basic monthly charge plus a use rate.

  - Local Program Support (LPS) for System Control Programming on IBM machines, Local Licensed Program Support (LLPS) for IBM licensed programs, and Distributed Systems License Option (DSLO) to be available during 1981 and 1982.

    - Monthly support charges for LPS range from $108 for the 115 processor to $1,085 for the 3081.

    - Basic license charges for LLPS range from $1,425 for VSPC Version 2 to $30 for TSO COBOL Prompter.

    - Monthly program charges for VSPC to be $160; for TSO COBOL, $5.

- General remarks on vendor service.

- Although IBM is still ranked as one of the highest service organizations by users, there appear to be problems in locating proper service representatives to coordinate accounts.

- Overlaps in OPD, GSD, and DPD appear to be one cause.

- Software service is at times inconsistent.

- After-hours service personnel are not always as well trained as others.

B. WORD PROCESSOR VENDORS

1. WANG

- Standard maintenance.

  - Service hours.

    . Normal.

      1. Eight a.m. (8 a.m.) to 5 p.m. Monday through Friday.

    . Extended.

      1. Offered.

  - Response time.

    . Not guaranteed.

    . Wang claims to have four-hour average.

- Average monthly maintenance charges.

  . Normal.

    1. Hardware charges structured.

    2. Average monthly charge for the OIS 140 is $20 per normal workstation, $40 for printer, and about $200 for the CPU.

- Hourly rates on time and materials.

  . Based on individual contract.

- Training.

  . Based on individual contract. Some assistance through Wang user groups.

- Documentation.

  . General equipment and operations manuals are provided.

- Central support center activity.

  . A Customer Service Center in Massachusetts has a hotline.

  . Company noted that this was being reorganized and decentralized.

- Escalation procedures.

  . FEs assigned by territory.

  . They contact Customer Service Center for back-up.

- Per call.

  - Service hours.

    . Normal.

      1. Eight a.m. (8 a.m.) to 5 p.m. Monday through Friday.

    . Extended.

      1. Based on scale.

  - Average monthly maintenance charges.

    . Normal.

      1. Thirteen thousand and five dollars ($1,305) for a VS 100 including memory, disk, mag tape, printer.

    . . Extended.

DAYS	EIGHT HOURS	SIXTEEN HOURS	TWENTY-FOUR HOURS
Mon. - Fri.	Basic Rate	+20%	+30%
Mon. - Sat.	-	+40%	+60%
Mon. - Sun.	+60%	+80%	+100%

  - Hourly rates on time and materials.

    . Prime shift is $68.

    . Overtime is $92.

- Travel charges.

DISTANCE (MILES)	RATE
0 - 50	Basic Rate
51 - 100	+25%
101 - 150	+75%
150+	Negotiated

- Customer engineering support.

  . Site planning, site environment survey, installation provided.

  . Licensed software includes maintenance and scheduled updates.

- Central support center activity.

  . Massachusetts "clearing house" answers simple questions.

  . Clearing house passes serious hardware and software problems to local specialists.

- General remarks on vendor service.

  . Wang service underwent a major reorganization around January 1981. Emphasis is now on personnel service aspects.

  . User reactions are positive.

  . Recent changes include the following:

    1. Word processor service split from data processing service.

    2. Changes in service manager personnel.

3. Addition of service technicians.

4. Some service technicians specializing on OIS systems.

5. Personal letters sent regularly to users informing them of changes in service personnel, available seminars, training aids, etc.

2. XEROX

- Full service maintenance agreement.

  - Service hours.

    . Normal.

      1. Nine a.m. (9 a.m.) to 5 p.m. Monday through Friday.

    . Extended.

      1. Offered.

  - Response time.

    . Nothing guaranteed, although Xerox claims to have a three-hour average.

  - Average monthly maintenance charges.

    . Normal.

      1. From $100 to 300 for an 850 or 860, depending upon the model.

- Extended.

  . Overtime charges apply for after 5 p.m. or for weekend service.

- Training.

  . Operators may be trained to check for minor problems and locate user mistakes.

- Documentation.

  . Trouble shooting manuals are provided.

- Customer engineering support.

  . Appears to be offered on an as-needed basis.

- Escalation procedures.

  . Single service telephone number is provided.

• On-call.

- Service hours.

  . Normal.

    1. Eight-thirty a.m. (8:30 a.m.) to 5 p.m. Monday through Friday.

  . Extended.

    1. Xerox plans to provide key cities with 24-hour support.

- Response time.
  - No guarantees.
  - Xerox considering going to a "priority response time" based on "premium prices."
- Hourly rates on time and materials.
  - Prime shift is $65.
  - Overtime is at time-and-a-half.
- Documentation.
  - Equipment manuals are provided.
  - User not expected to do any diagnosis or repair.
- Central support center activity.
  - There is a central 800 number for word processor users.
  - Some hotline super technical support is provided.
  - El Segundo, CA is center for board repair.
  - There are as on-line diagnostics for 9700 non-impact printer problems.
- Escalation procedures.
  - Local territories served by three-man mini-teams.

- A Customer Support Center is used to funnel information between teams and users.

C. PBX/CBX VENDORS

1. GTE

- Response time.
  - Company claims to have two-to-four hour response time.
  - One user noted that GTE refused to agree to their demands for a minimum response time.
  - Another user noted that MTTR was four to eight hours, depending on the problem.
- Average service call charge is $150.
- Training.
  - Self-training manuals available.
- Documentation.
  - Manuals are available to allow customers to identify problem.
- Customer engineering support.
  - Part of normal service call.

- Central support center activity.

  - Allows customer to identify if a problem is the system, something that can be self-corrected, or if it needs a FE.

  - Remote diagnostics available for hardware only.

2. ROLM

- Summary of vendor service agreements.

- Service hours.

  - Twenty-four (24) hour support available.

- MTTR.

  - No guarantees.

  - Santa Clara, CA provides 24 hour turnaround on board repair.

- Central support center activity.

  - Three system support centers in the U.S. (Santa Clara, CA; Dallas, TX; Washington, D.C.) provide supertechs diagnostics.

  - Emergency calls are free.

- General remarks.

  - Rolm does not always have direct contact with the end user.

  - It may act as service support for independent telephone companies and distributors (interconnects).

- It does require them to contact Rolm on all system outages, and Rolm does have national account managers.

D. SOFTWARE VENDORS

1. RADIO SHACK

- Full on-site service agreement.
  - Service hours.
    - Eight a.m. (8 a.m.) to 5 p.m. Monday through Friday.
  - MTTR.
    - No guarantees, although company claims a service turnaround of three to four days.
  - Average yearly maintenance charges.
    - Twelve hundred dollars ($1,200) for the Model II with second disk drive and a printer.
  - Provisions.
    - Customer allowed two preventive maintenance calls and unlimited service calls a year.
    - Loaner available for larger units.
    - Yearly contract.

- Software.

  . Sold on "as-is" basis.

  . Little software maintenance done.

  . If faulty, Radio Shack will replace.

- Limited on-site service agreement.

  - Service hours

    . Eight a.m. (8 a.m.) to 5 p.m. Monday through Friday.

  - MTTR.

    . No guarantees, although company claims service turnaround of three to four days.

  - Average yearly maintenance charges.

    . Seven hundred dollars ($700) for Model II with second disk drive and a printer.

  - Provisions.

    . Customer allowed one preventive maintenance and two service calls per year.

    . Thirty dollars ($30) per additional call.

    . Parts are charged, but labor is included.

    . Yearly contract.

- Software.

  . Sold on "as is" basis.

  . Little software maintenance done.

  . If faulty, Radio Shack will replace.

- Carry-in.

  - Service hours.

    . Eight a.m. (8 a.m.) to 5 p.m. Monday through Friday.

  - MTTR.

    . No guarantees, although company claims service turnaround of three to four days.

  - Average yearly maintenance charges.

    . From $900 to $1,000 for Model II with second disk drive and a printer.

  - Provisions.

    . Customer allowed two preventive maintenance and unlimited service calls per year.

    . Customer must bring equipment into store.

. Radio Shack pays for transportation to repair center.

. No loaner provided.

. No obligation on part of Radio Shack to renew after first year.

- General support.

. Radio Shack sells programming guides, manuals, and packaged programs.

. Software technical manual used by dealer to answer customer questions.

. This is not allowed out of Radio Shack store.

- Customer engineering support.

. Software updates announced by dealer on regular basis to customers.

. They can purchase if wanted.

- Escalation procedures.

. Usual retail store complaint procedure.

- Remarks.

. Limited On-Site Agreement appears to be favored.

. Service limited to hardware support.

. Software maintenance and system design not provided.

1. TYMSHARE

- Computer maintenance contract.
  - Service hours.
    - Normal.
      1. Eight a.m. (8 a.m.) to 5 p.m. Monday through Friday.
    - Extended.
      1. Available.
  - Average monthly maintenance charges.
    - Extended.
      1. Weekdays $45 per hour including travel time.
      2. Weekends and holidays $55 per hour including travel time.
      3. Both charges are portal-to-portal with a three-hour minimum.
  - Training.
    - Initial training provided.
    - After installation it is offered at cost to user.
  - Customer engineering support.
    - Mandatory Engineering Charge Orders (ECOs) lists provided.

- Tymshare automatically installs those deemed necessary.
- Others installed with customer approval.
- Parts in excess of $100 paid for by customer.

- Central support center activity.
  - Company indicates plans to have a remote diagnostics and support center system in operation by 1985.

- Escalation procedures.
  - Informal.
  - User can call sales representative or applications consultant for help.

- Special features.
  - Covers multi-vendor systems.
  - Customer cannot approach or solicit Tymshare FEs for employment during life of contract (one year, open-ended or for 90 days after expiration.)

- General remarks on vendor service.
  - "Instant diagnostics" is a feature of Tymshare software.
  - Users note that rapid growth of company has caused some lag in service support.